WHAT IS CLAIMED:

1. A bioabsorbable fastener for insertion into pierced openings on opposed sides of a tissue wound comprising:

a fastener body formed of a generally bioabsorbable polymer material and defining an initial tissue capture zone internal to the fastener body, the fastener body including:

a pair of fastener arms, each fastener arm insertable into one of the pierced openings;

a cleat operably joined to each fastener arm at an elbow portion and projecting backward into the initial tissue capture zone with an internal elbow angle defined between the cleat and the fastener arm;

a durable tissue retention zone of each fastener arm defined between the cleat and the fastener arm and having an apex at the elbow portion;

a maximum insertion width of each fastener arm defined between outermost surfaces of the cleat and the fastener arm; and

a backspan operably joined to each fastener arm at a shoulder portion with corresponding internal shoulder angles defined between the backspan and each fastener arm and an internal midspan angle defined between a midpoint of the backspan and the apex of each durable tissue retention zone,

wherein the elbow portion and the internal elbow angle of each fastener arm are constructed with the maximum insertion width being greater than a width of the

corresponding pierced opening such that at least a portion of the tissue surrounding the pierced opening is stretched over the cleat and elastically retained in the durable tissue retention zone for longer than a minimum degradation period of the bioabsorbable polymer material, and

wherein the shoulder portions and the internal shoulder angles are constructed so as to capture wound tissue within the initial tissue capture zone during deployment of the fastener and then dynamically reform in response to lateral stresses applied by the wound tissue after deployment such that a sum of the internal elbow angles and the internal midspan angle remains less than 360 degrees without a fracture failure of the bioabsorbable polymer material until the minimum degradation period of the bioabsorbable polymer material.

2. The fastener of claim 1, wherein the initial tissue capture zone is defined by a generally planar cross section defined by a coplanar orientation of a centerline of each of the pair of fastener arms and the backspan.

3. The fastener of claim 1, wherein the minimum degradation period of the bioabsorbable polymer material is between five to twenty-one days.

4. The fastener of claim 1, wherein the shoulder portions and the internal shoulder angles are constructed so as to generally maintain a shape of the initial tissue capture zone during deployment of the fastener and not dynamically reform in response to lateral stresses applied by

the wound tissue after deployment for an initial period of time less than the minimum degradation period.

5. The fastener of claim 1, wherein the initial period of time is between one to fourteen days.

6. The fastener of claim 1, wherein the internal elbow angles are constructed in a range between 15-70 degrees and the internal shoulder angles are constructed in a range between 70 and 110 degrees.

7. The fastener of claim 1, wherein the internal elbow angles are less than the internal shoulder angles.

8. A dynamic bioabsorbable staple for use with a wound in living tissue having opposed sides, the staple comprising:

a staple body formed of a generally bioabsorbable polymer, the staple body including:

a pair of staple arms each having a distal end and a proximal shoulder portion;

a backspan joining the pair of staple arms proximate the shoulder portions;

each shoulder portion being constructed so as to deform without failing in response to lateral forces naturally exerted by the opposed sides of the wound from a first inserted position to a second deformed position; and

each staple arm having a cleat defined proximate the distal end of the staple arm that is operably angled toward the backspan and defines a tissue retention zone between the cleat and the staple arm that effectively retains tissue when the staple arm is both in the first inserted position and in the second deformed position.

9. The staple of claim 1, wherein the staple arm and the backspan generally define an interior shoulder angle, the interior shoulder angle dynamically transitions from between 70°-100° in the first inserted position to between 120°-180° in the second deformed position.

10. A dynamic bioabsorbable staple for use with a wound in living tissue having opposed sides, the staple comprising:

a staple body including a pair of staple arms operably joined at a shoulder portion by a backspan, each arm further including an elbow portion having an inwardly projecting cleat, the staple arms, the inwardly projecting cleats and the backspan defining an internal tissue capture zone; and

each shoulder portion including an interior shoulder angle generally defined by the backspan and the staple arm, the shoulder portion constructed so that the interior shoulder angle is between 70°–100° in a first position at an insertion time, the interior

shoulder angle transitioning to between 120°-180° in a second deformed position at a second time subsequent to the insertion time in response to lateral forces naturally exerted by the opposed sides of the wound.

11. The staple of claim 10, wherein each elbow portion includes an interior elbow angle generally defined by the staple arm and the cleat, the elbow portion constructed so that the interior elbow angle is less than 70° in the first inserted position at the insertion time, the interior elbow angle transitioning to a maximum of 90° in the second deformed disposition at the second time.

12. The staple of claim 10, wherein the second time is not less than 12 hours subsequent to the insertion time.

13. A bioabsorbable, subcutaneous staple comprising:

a staple body formed of a generally bioabsorbable polymer, the staple body including:

a pair of staple arms each having a distal end and a proximal shoulder portion, the distal end including an inwardly directed cleat, each cleat and arm defining an elbow portion; and

a backspan joining the pair of staple arms proximate the shoulder portions, wherein the cleats, arms and backspan cooperatively define a dynamic internal tissue capture zone, the internal capture zone presenting a first shape at an insertion time,

the elbow portions and shoulder portions dynamically transitioning in response to lateral forces applied by opposing sides of a tissue wound without failure such that the internal capture zone presents a second shape at a second time subsequent to the insertion time and prior to a minimum degradation period of the bioabsorbable polymer.